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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.   | CONFIRMATION NO. |
|---|-------------|----------------------|-----------------------|------------------|
| 10/091,385  | 03/07/2002  | Masao Kamiguchi      | 392.1739              | 8740             |
| 21171   | 7590        | 11/01/2005           | EXAMINER              |                  |
| STAAS & HALSEY LLP<br>SUITE 700<br>1201 NEW YORK AVENUE, N.W.<br>WASHINGTON, DC 20005 |             |                      | HEITBRINK, JILL LYNNÉ |                  |
|   |             | ART UNIT             |                       | PAPER NUMBER     |
|   |             | 1732                 |                       |                  |

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/091,385             | KAMIGUCHI ET AL.    |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Jill L. Heitbrink      | 1732                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 08 August 2005.

2a) This action is **FINAL**.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-5,7-24,26-33,35 and 36 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-5,7-24,26-33,35 and 36 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

|  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date: _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/25/05</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 7-24, 26-33, 35 and 36 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kamiguchi et al. (European Patent 1,044,781), see page 7, lines 22-page 8, line 57. Kamiguchi et al. discloses performing injection air shots, obtaining data and obtaining interdependency relationships of the resin pressure, temperature, velocity and screw position, time.
3. Kamiguchi discloses performing air shots and measuring data “under various resin temperatures and injection velocities for the same shapes of the cylinder and that of the nozzle of the molding machine and the same resin” (page 7, lines 43-45). “The molding condition data 102 includes a resin temperature, an injection velocity and injection uppermost pressure, a die temperature and the like” (Page 6, lines 40-41). The obtained data is used for obtaining the injection pressure P serving as a molding condition (page 8, lines 22-29). As to claim 11, Kamiguchi discloses automatically obtaining an interdependency relation of the resin pressure with respect to the resin temperature and the injection velocity or flow rate of resin (see page 13, lines 6 and 7) based on combinations of the data of the injection pressure, the injection velocity and the resin temperature in the injections (see page 13, lines 8-10). As to claim 17, Kamiguchi discloses an analyzing means for obtaining a degree of resin temperature

dependency of the resin pressure and/or a degree of velocity or flow rate dependency of the resin pressure (page 14, lines 2-4) based on the resin pressure at set screw position or at set points in time elapsing from a start of injection (page 13, lines 56-58, curved data is based on time as shown in Fig. 5). As to claim 22, Kamiguchi discloses analyzing means for obtaining an interdependency relation between the resin pressure with respect to the resin temperature and an injection velocity or a flow rate of resin (see page 13, lines 6 and 7) based on the detected resin pressure, the injection velocity and the resin temperature at set screw positions or at set points in time elapsing from a start of each injection (see page 13, lines 8-10 and the curved data based on time). As to claim 28, Kamiguchi discloses analyzing means for analyzing interdependency relation of the resin pressure with respect to the resin temperature and the injection velocity or a flow rate of resin based on data stored in the storing means (page 13, lines 51- page 14, line 4).

4. Claims 1-5, 7-24, 26-33, 35 and 36 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Nunn (Pat. No. 4,850,217). Nunn discloses performing injection molding using a plurality of different conditions and plotting and analysising the conditions based on screw position and time, Fig. 3 and 4, and the exponential function with resin temperature, viscosity, col. 5, lines 1-25.

5. As to claims 1 and 5, Nunn discloses obtaining a degree of resin-temperature dependency of a resin pressure and/or a degree of velocity or flow-rate dependency or interdependency of a resin pressure (Fig. 3 shows the dependency of temperature and

pressure) based on a relationship between the resin pressure and a screw position or a relationship between the resin pressure and an elapsing time (Fig. 3 shows the dependency based on time) from a start of each injection obtained in the injections of resin. As to claim 11, Nunn discloses automatically obtaining an interdependency relation of the resin pressure with respect to the resin temperature and the injection velocity or flow rate of resin (col. 7, lines 26-52) based on combinations of the data of the injection pressure, the injection velocity and the resin temperature in the injections (col. 3, lines 48-51). As to claim 17, Nunn discloses an analyzing means for obtaining a degree of resin temperature dependency of the resin pressure and/or a degree of velocity or flow rate dependency of the resin pressure (Fig. 3) based on the resin pressure at set screw position (col. 3, lines 51-53) or at set points in time elapsing from a start of injection. As to claim 22, Nunn discloses analyzing means (graphing) for obtaining an interdependency relation between the resin pressure with respect to the resin temperature and an injection velocity or a flow rate of resin based on the detected resin pressure, the injection velocity and the resin temperature at set screw positions or at set points in time elapsing from a start of each injection (Figures 3 and 4). As to claim 28, Nunn discloses analyzing means (graphing) for analyzing interdependency relation (col. 13, lines 32-34) of the resin pressure with respect to the resin temperature and the injection velocity or a flow rate of resin based on data stored in the storing means.

***Response to Arguments***

6. Applicant's arguments filed August 8, 2005 have been fully considered but they are not persuasive.
7. Applicant argues that Kamiguchi discloses interpolation, but fails to teach obtaining an interdependency relation of the resin pressure with respect to the resin temperature and an injection velocity or a flow rate of resin, based on either a relationship between the resin pressure and a screw position or a relationship between the resin pressure and an elapsing time from a start of the injection of resin at the bottom of page 9 and top of page 10 of the response. This interpolation as disclosed in Kamiguchi and as discussed by applicant is based on the resin pressure, temperature and injection velocity. This interpolation is an "interdependency relation".
8. Applicant argues that the curve representing variation of the injection pressure as a function of time in Kamiguchi, and not variation of pressure as a function of temperature and velocity. However, Kamiguchi, page 7, lines 46-57, describe the relationship of injection pressure with temperature and velocity without the function of time.
9. Applicant argues that Nunn does not teach obtaining an interdependency relation of the resin pressure with respect to the resin temperature and an injection velocity. However, these interdependencies are a basis of the process and calculation in Nunn, such as the clear relation at col. 6, lines 52-56.
10. As to Nunn failing to teach the obtaining according to an equation expressing the resin pressure using a power function of the injection velocity or the flow rate of resin,

and an exponential function of the resin temperature, Nunn discloses the values of the velocity, temperature and pressure being obtained and the relationship between the values. An exponential relationship between temperature and viscosity is shown in Nunn at col. 4, line 57 and the relationship between viscosity and pressure is shown in Nunn at col. 5, line 33. Therefore, an equation expressing the resin pressure using an exponential function of the resin temperature would have been clearly a different writing of the equations analysis in Nunn. An equation expressing the resin pressure using a power function of the velocity would have been a clearly alternative expression of the incremental relationship of the velocity and pressure at col. 6, lines 6-23.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill L. Heitbrink whose telephone number is (571) 272-1199. The examiner can normally be reached on Monday-Friday 9 am -2 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jill L. Heitbrink  
Primary Examiner  
Art Unit 1732

jlh